

6. *Zool. Anzeiger* (Carus), I (1878), pp. 54, 55. Translation in *Proc. Ent. Soc. Lond.*, 1915, pp. xxii, xxiii.
7. *Proc. Zool. Soc.*, 1887, pp. 191-274.
8. *Ent. Record*, XIII, No. 2, 1901, pp. 75, 76.
9. Both published by The Macmillan Co., New York. On pp. 21-23 of both editions the discoverer and his son generously refer to my early recognition of counter-shading in certain insects, although without any thought of its far-reaching importance. The references given are to *Trans. Ent. Soc. Lond.*, 1887, p. 294, and 1888, pp. 595-7.
10. *Proc. Roy. Soc.*, B, Vol. 106, pp. 83-87, pl. 5, 1930.
11. "Natural Selection the Cause of Mimetic Resemblance and Common Warning Colours," *Linn. Soc. Journ.—Zool.*, XXVI, 558-612, pls. 40-44, 1898. Reprinted, revised, as VIII in "Essays on Evolution," Poulton, Oxford, 1908.
12. *Trans. Ent. Soc. Lond.*, 1902, Pt. III, pp. 287-584, Pls. IX to XXIII.
13. *Trans. Ent. Soc. Lond.*, 1909, Pt. 3, pp. 329-383.
14. *P.Z.S.*, 1902, pp. 230-284, coloured pls. XIX-XXIII.
15. *P.Z.S.*, 1912, pp. 358-376, coloured pl. XLVIII.
16. *Trans. R. Ent. Soc.*, 83, Pt. 1 (June 1935), pp. 11-22, pl. II.
17. *Proc. Acad. Nat. Sci. Phila.*, 1912, pp. 281-364.
18. *Smithsonian Miscellaneous Collections*, Vol. 85, No. 7, 1932, pp. 1-201.
19. *Proc. V. Congr. Internat. Entom., Paris*, 1932, pp. 33-44.
20. *Trans. Roy. Ent. Soc., Lond.*, Vol. 80, Pt. II (December 1932), pp. 345-385, pls. XVIII-XXVIII.
21. *Trans. Roy. Ent. Soc. Lond.*, Vol. 82, Pt. II (December 1934), pp. 443-453, pls. XVI, XVII.
22. "Bijdrage tot de Biologie en de Ecologie van den Spreeuw (*Sturnus vulgaris vulgaris* L.) gedurende Zijn voortplantingstijd." Published as "Verlagen en Mededeelingen van den Plantenziektenkundigen Dienst te Wageningen," No. 69, 146 pp., Wageningen, Jun. 1933. An abstract of the results of this paper appears in *Proc. Roy. Ent. Soc.*, Vol. VIII (1933-4), pp. 160, 161, 170-172.
23. *Trans. R. Ent. Soc. Lond.*, 85, pt. 4 (May 1936), pp. 131-139, pls. 1-3.
24. *Ecology*, Vol. 19, No. 3, July 1938, pp. 370-389.

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## HALF-A-CENTURY OF ORTHOPTERA.

By MALCOLM BURR, D.Sc., F.R.E.S.

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When the *Entomologist's Record* was launched, our beloved science had entered upon the last phase of its early period. The task of collecting, naming, and describing material and establishing classification was in full swing and something like a coherent system was crystallising out for most of the orders. Until well into the present century our literature consisted almost exclusively of faunistic catalogues and monographic revisions.

Orthoptera, in spite of their size and attractive appearance, had somewhat lagged behind the other orders, and in 1888 there were few orthopterists in Europe and none in Great Britain. Those who casually picked up our three dozen or so species, such as the Dales, Edward Saunders, George Porritt, C. A. Briggs, and a few others, could hardly find an author to whom to turn for comfort. Curtis' five beautiful plates of some of our outstanding species were already twenty-six years old, and after a reign of half-a-century Stephens was still the authority.

On the Continent the richer fauna was more encouraging, and men whose names stand out were then in full strength. Brunner von Wattenwyl, by birth Swiss but by service a *Hofrath* or Aulic Councillor and a high official in the post and telegraphs of Austria, was busy in Vienna. In both appearance and manner Brunner seemed to me a relict of the seventeenth century, and it was a proud and happy time for me when he took me into the field at Oberweiden, a classic spot, when there was

a difference of sixty years between our ages. Another grand survivor of the past century was the old Baron de Sélys Longchamps, who was still working upon the Odonata but found energy to take an interest also in the Orthoptera. He surveyed the fauna of his native parish of Wareme, near Liège, for three-quarters of a century, and retained the charm and dignity of an aristocrat of the eighteen-hundreds.

In 1882 Brunner gave us his fine *Prodromus der europäischen Orthopteren*, replacing Fischer's great work of thirty years previously. The *Prodromus*, still indispensable, has never been rivalled, much less surpassed, as a comprehensive account of the European Orthoptera. It was a stimulus to the study of the order, and so gave rise to the great activity of the succeeding decades. Brunner's series of revisionary monographs was still unborn and the classification of the order was but little changed from the system laid down by Serville in 1831 and modified by Stål in 1873-78.

In Lausanne de Saussure, distinguished member of the famous patrician family, who had given us his great work upon the Crickets in the sixties, produced a monograph of the *Oedipodidae* in the year of our birth, following it up with a supplement a year later.

Dr Hermann Krauss, a jovial doctor of Tübingen, was continuing the series of small but important articles which he had begun in 1873. They won him a high place in the roll of orthopterists.

These three were all amateurs. In Madrid a great Professor, Don Ignacio Bolivar, by 1888 had been at work already more than a decade. It seems barely credible that the man who had brought out the first systematic account of the Orthoptera of Spain ten years before our foundation should have been the very active President of the 6th International Congress of Entomology in 1935.

In the United States Samuel H. Scudder was still busy in Cambridge, Mass. He was the pioneer of the very small band of writers upon fossil Orthoptera.

In the nineties the burst of monographic activity continued. In 1893 Brunner, taking advantage of an exceptionally fine collection brought by Fea from Burma, gave us a general revision of the classification of the order, and this was associated with revisions of the Cockroaches, *Phaneropteridae*, *Pseudophyllidae*, *Stenopelmatidae* and *Gryllacridae*, while his colleague, Joseph Redtenbacher, did the *Conocephalidae*. When I first visited Brunner, in 1898, the two were collaborating on the *Phasmidae*. Bolivar gave us the *Tettigidae* and *Pyrgomorphidae*.

From Russia little had come since the forties, but that wonderful fauna was now being tackled by Zubovski, Ikonnikov, and Adelung. They lived in a world apart. In those days Russia was an even more mysterious country than to-day.

The American fauna was receiving by now the attention it deserves. Rehn and Hebard were starting their long partnership, dealing mainly with the Neotropical Orthoptera, while Morse, Lawrence Bruner, N. Caudell, Hancock and others were turning out a stream of literature.

Our own humble faunula had not so stimulating an influence. Brunner's *Prodromus*, in German and entomological Latin, began to soak through in the later eighties, with the result that Eland Shaw produced a synopsis of our British species, based upon Brunner, adding the localities noted by the handful of modern collectors. This came out

in *The Entomologist's Monthly Magazine* in 1889-90, but in reprinted form was very scarce and it was many years before I succeeded in securing a copy. In 1889 E. I. Miller published a brief synopsis in *The Entomologist*. In spite of that one can turn over whole volumes of the current entomological literature without finding an allusion to an orthopteron.

Some help came from over the water. Captain Adrien Finot, a French officer who had been taken prisoner at Sedan, secluded himself in a delightful chateau and garden surrounded by a high wall at Fontainebleau, where he buried himself in carpentry, photography, and Orthoptera. "I knew France prosperous under the Emperor," he said to me one day, "and I cannot be happy in a regime of republicans and Freemasons," an association which struck me at the time as being odd. But his seclusion was to the advantage of our order, as he gave us an excellent book in 1890 upon the Orthoptera of France, with good illustrations, which was very serviceable for our few species, and easier to understand than the *Prodromus*. In collaboration with Bonnet he gave a good book on the Orthoptera of Tunis and Algeria.

Important faunistic papers were now coming from these men and others. The opening up of Africa was bringing along masses of material, mainly to London, where for long they were neglected, and Berlin, where Ferdinand Karsch was kept busy naming and describing them, while in Italy Giglio-Tos gave a coherent account of the Mantidae in *Das Tierreich*. In Italy also Griffini began work, and Yngve Sjöstedt, after his return from Kilimandjaro to Stockholm, turned out a string of work on the African Acridians and the first monograph of the remarkable Acridians of Australia. In England, W. F. Kirby produced the great Catalogue of the Orthoptera and in Oxford, R. Shelford, fresh from Sarawak, was doing valuable revisionary work on the Cockroaches, which was continued by R. Hanitsch. Then came the younger generation of successors of Brunner, F. Werner, H. Karny, R. Ebner in Vienna, W. Ramme in Berlin, while in Paris L. Chopard produced numerous works on the Crickets and a new account of the Orthoptera of France. The Far East joined in, and we find the names of Shiraki from Japan and H. S. Chang and Pang Hua Tsai from China. In Spain Candido Bolivar started following in his father's footsteps.

It struck me as curious, when still a boy, that such jolly-looking insects as *Pholidoptera cinerea* and *Tettigonia viridissima* should be neglected and I had a good deal of difficulty in finding out their names. A note on some grasshoppers by C. A. Briggs caught my attention. so I wrote to him, and he put me on the track of Eland Shaw, and from that date I became ardent. The fact that there was no book on the British kinds was stimulating, so I got busy and my boyish effort was published in 1897. For all its immaturity it served its purpose for nearly a quarter of a century, for it was not till 1920 that Lucas brought out his book dealing with our British Orthoptera in a comprehensive manner.

To-day the position is different. The recreational amateur whose work laid the foundations of our science is yielding place to the professional, giving his whole time to the work, which has become more grimly scientific. In most settled countries the broad outlines of the fauna are now well known and most families have their classification generally accepted. Now it is the problems in biology that are taking



attention, ecology, regional variation, geographical distribution with all its implications, phase variation, physiology, embryology, and the immense development of applied Entomology. Russian names have now stepped into the foremost place, but this is hardly surprising, for the population of the U.S.S.R., both human and orthopterous, justifies the lead.

In our country, I am glad to say, is centred the international war upon the Locust, and it is not by mere chance that the Chief of Staff is a Russian, my old friend Dr B. P. Uvarov, who has put not only combined action against that plague but the study of the Orthoptera generally upon a modern basis.

Another entomologist who among us is welcome from abroad is Dr F. Zeuner, formerly of Freiburg i. Br. He has given us remarkable work upon the fossil Orthoptera, of which far more is known than generally realised. Zeuner's proposed classification of the Orthoptera is revolutionary and to my mind very satisfying, for he has put into precise expression notions that have been inarticulate in my head almost all my life. At the moment he has diverged into the detailed study of the Pleistocene climate, in search of important light upon the history of the Orthoptera fauna of our Region.

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### PROGRESS IN OUR KNOWLEDGE OF BRITISH COLEOPTERA, ANTS, AND MYRMECOPHILES

During the 50 years of the "Entomologist's Record and Journal of Variation."

By HORACE DONISTHORPE, F.Z.S., F.R.E.S., etc.

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The difficulty in an article of this kind is to know what to select, and what to leave out. The subject is vast, the progress has been great, and the *Record* has had no mean share in the results.

I have always taken a great interest in the *Record* and the late J. W. Tutt, the founder, was a great friend of mine. Although many other people had helped him with the *Record*, when he honoured me by asking me to become a sub-editor in 1897 (Editor for Coleoptera), I was very pleased. My name was the first to appear as such, and I am proud to think it is still present on the panel in company with the distinguished and talented sub-editors we now possess.

It may be as well to divide this article into two sections:—Coleoptera; and Ants and Myrmecophiles.

#### COLEOPTERA.

Fowler's great work on the *Coleoptera of the British Isles* had come into existence before the *Record* was started—on April 15th, 1890—but the last two volumes, 4 and 5, were published after this date. There is no doubt whatever that this work has had more influence on the progress of our science, and attracted more entomologists than any other during our time, or before. It may be out of date and its chief fault to my mind is the omission of the references to the original descriptions; but apart from this I still prefer to work with "Fowler," unless I am using Reitter, Ganglbauer, or other foreign works. In the Supplement to Fowler (1913), and the "Annotated List of the Additions to the British Coleopterous Fauna" (1931) the work is brought up to those